6: Government of Syria--35 G-4 (no date)1952 MD1 Syria MD1

II. Land Tenure for the Tractor Owner

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The tractor owner gets better advantages when he rents land. He also pays a percentage of the crop. It used to be 5-6% with the obligation to plant a "shkara" for the landowner. The "Shkara" is a certain amount of seed which the landowner provides and which the tenant agrees to plant by his machines and to harvest with his combine free of charge. The "shkara" is proportional to the area of land rented. It varies between 10-20 sacks of wheat. In the last few years when demand for land became great, the rents rose to 10-12% with the habitual "shkara". Usually the rental contracts are for three years. They rarely exceed this period.

III. Land Tenure Along the Khabur

Along the Khabur rents are different in manner. There, the landowner provides not only the land but also the water for irrigation and half the seeds. In return he receives half the crop. The peasant furnishes his labor for plowing, seeding caring for the irrigation canals, irrigation and harvesting.

Rents for pump irrigation were between 7-10% until 1951. The cotton rush increased the rents for strips of land near the river to 15-20%, but the failure of the crop reduced the rush for land and the rent is down again to around 10%.

THE PROBLEM OF CREDIT IN JAZIRAH

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The rapid economic advance of Jazirah in the last years is nothing less than amazing. In 1941, in the region of Qamishli, for example, the farthest village cultivated was less than 20 kilometers south of the city. All the land beyond was pasture for the Bedouin. East of Kubur el Bid to Tal Koshak, a distance of 60 kilometers, the land was similarly idle. There was not a single tractor in the region of Ras el Ain, and not a single water pump on the Khabur aside from those of the Assyrians.

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Qamishli itself, the principal town of Jazirah, had no electric light, no paved roads, no sewage system, and very few acceptable houses to live in. The same was true in a larger measure of the other towns of Jazirah.

361 At present, agriculture extends in an unbroken line from the
311 Turkish and Iraqi borders south to the Rad and Hassaksh, and west to
365 Ras el Ain and midway to Rakka. Qamishli has all the amenities of a fair-sized city with sewage, electricity, asphalted roads, running water, places of amusement, and modern office buildings and houses. The other towns of Jazirah show similar progress but in a smaller way.

454 All this development could not have been achieved without extensive use of capital. It was stated that the original emigrants to Jazirah whether Christians or Kurds, brought very little capital with them. Whatever they have now was made in Jazirah and not brought from outside.

I. Credit to the Bedouin and Kurd

4521 The nearest commercial market to Jazirah where credit was
438 available was Aleppo. Aleppo merchants first provided goods shipped to the towns of Jazirah to be smuggled into Turkey. And Jazirah merchants working on a commission or partnership basis made good profits. Some of them specialized in lending money to the Bedouins and Kurds and for them, also, credit was available at Aleppo. They borrowed at an interest rate of 9% and lent at 35-50%. Most of them, however, did not lend money outright as a general practice, but sold goods and especially textiles, coffee and sugar to the farmer against bills maturing at harvest time. The exorbitant interest was added over the price of the goods, and the peasant accepted it as a somewhat higher price and did not consider it as interest. Theis system still prevails at the present time.

II. Credit to the Machinery Owner

4521 With the expansion of agriculture and the extensive use of agricultural machinery, credit in much larger amounts became necessary. The farmer using machinery needed two kinds of credit. He needed credit to pay for his machines, and seasonal credit to cover a part of his expenses for wages, seed, fuel, and general expenditures.

In the first years of the War, dealers in agricultural machinery supplied a part of the need by selling on an installment basis for a period of 20 months. But between 1943 and 1948 they demanded cash payment before delivery. In the last four years, they have renewed their credit facilities.

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CHAPTER 5 *ELECTRIC POWER*

Existing Facilities

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Syria is rather poorly supplied with electric power. Out of a population of 3.6 million, only 1.4 million live in towns and villages supplied with electricity and of these only about half actually use it. While public utilities have been increasing their capacity over the last eight years at a mean annual rate of about 17%, their total installed capacity at the end of 1953 amounted to only 34,350 KW or 44,776 KVA.[24] Most of the newer factories have found it necessary to provide their own power facilities. The industrial power plants which the mission was able to record have a total capacity of 20,135 KW. Some of these plants are connected with the public utilities. In 1953 the power supplied by public utilities amounted to 119.8 million KWH; and Damascus and Aleppo together accounted for 81% of this total. In fact, there were only six towns in Syria where the power generated by public utilities in 1953 exceeded a million KWH. It may be roughly estimated that factories consumed about 43 million KWH of the power generated by their own plants. Thus the total supply of electricity during 1953—about 163 million KWH—was equivalent to only 46 KWH per inhabitant, an amount comparable to that in Turkey, but 41% of that in Lebanon and about half that in Algeria and French Morocco.

At present public utilities have great difficulty in meeting their peak load. No reserve capacity exists. In Aleppo and Damascus surcharges discourage power consumption during peak hours. Since many of the large industrial power consumers have their own power plants, the public utilities generate primarily for lighting. The latter accordingly cannot balance power requirements for industry and lighting and thus tend to have an exaggerated peak load, which increases the cost of power generation. Costs are further raised by the fact that generating units are below the capacity required for economical operation. It should also be noted that

[24] See Annex G, p. 410.

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nearly all of the power is produced by diesel units which are comparatively expensive to operate. At the end of 1953 the public utilities had no steam plant and only 14% of their capacity consisted of hydro plant. The geographic dispersion of cities and low power consumption has made anything approaching a national grid impossible. Only the cities of Homs and Hama are interconnected through the Ghajar hydro plant.

Future Requirements

In principle it would be desirable to provide for a considerable acceleration of the rate at which the capacity of public utilities has been growing. The objectives of an expansion program should be to meet increasing power requirements, to permit factories gradually to shift to public utilities as a source of power, and to provide a margin as a reserve against breakdowns. Limitations on available resources, however, make it impossible to undertake a very ambitious program in the years immediately ahead. Capital must be carefully allocated. At this juncture in Syria's development, for example, it is more important to improve the water supply for communities and for agriculture than to provide more electricity for lighting.

In formulating its recommendations on power the mission has assumed in the first instance an expansion in the consumption of power supplied by public utilities at about the same rate as in the period 1949-53, namely an average annual increase of 14%. This would entail a rise in capacity from 44,776 KVA in 1953 to 106,000 KVA at the end of 1960. We consider, however, that a further increase of at least 25,000 KVA is necessary to provide a small reserve against breakdowns. This program does not specifically provide for a transfer of industrial power demand to the public utilities but, with the somewhat slower growth in industrial production which we anticipate, factories should be able to draw a little more on public utilities, at least in the off-peak hours.

Plants scheduled for completion in 1954 account for an additional capacity of 14,610 KVA. Among these are a 12,500 KVA steam plant for Damascus and a 1,350 KVA diesel plant in Homs. To meet the balance of the need, the mission recommends the installation of the following facilities by the end of 1960:

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MAP 7

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ELECTRIC POWER IN SYRIA

Area	Present Capacity	Authorized or under Construction	Mission Program	Total KW 1960
DAMASCUS	23,000	7,000	10,000	40,000
ALEPPO	10,400	10,000	15,000	35,400
HOMS-HAMA	3,750		2,000	5,750
JISR ECH CHOGHOUR			2,000	2,000
LATAKIA	800		4,000	4,800
DEIR ES ZOR	840		1,500	2,340
SMALLER TOWNS AND VILLAGES	6,660		6,000	12,660
TOTAL	45,450	17,000	40,500[a]	102,950[b]

[a] 91,250 KVA. [b] 131,136

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Latakia, which now has only an old diesel plant with a capacity of 800 KW, must have additional capacity to meet its rapidly growing requirements. The most immediate need can be met by the construction of a 2,500 KVA diesel plant. This can later be supplemented by the installation of a hydroelectric plant at the site of the dam on the Nahr el Kebir which the mission has recommended as part of the irrigation program.

Deir ez Zor, the center of the developing Euphrates river valley and the fifth largest city in the country, also urgently needs a new 2,000 KVA diesel plant. The existing plant has a capacity of only 915 KVA.

The reclamation of the Ghab will generate a considerable increase in general activity in that region and an attendant expansion of power requirements. To meet this need the mission suggests the installation of new diesel plants of 2,500 KVA each in both Hama and Jisr ech Choghour. It would be advisable to connect these plants with a transmission line running through the Ghab and capable of supplying power for construction throughout this area and for the villages en route. Jisr ech Choghour in particular will become the center of construction activity. The mission is aware that plans for the Ghab call for the installation of a 6,250 KVA hydroelectric works at this location. The power from this plant, however, will not be firm and is in any event not likely to become available soon. The mission considers therefore that a diesel plant which can be quickly constructed is necessary to meet the immediate requirements.

For the smaller towns and villages the mission has proposed only a modest program involving some improvements in existing plants to raise their capacity, and the installation of 25 small diesel units with an individual capacity of 200 or 250 KVA. The more rapid electrification of villages and small towns should, in our opinion, be postponed for the time being in favor of more urgent programs.

Government Direction and Supervision

To carry out the recommended expansion program it will be necessary to strengthen the Directorate of Electricity in the Ministry of Public Works. This directorate was established in 1953 to coordinate the development of electricity in Syria and supervise the construction and operation of power plants. The mission recommends that the directorate be provided with a staff of 10 trained engineers to enable it to carry out its functions adequately. Separate sections should be organized for the technical

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and administrative supervision of public utilities. Supervision ought to be concentrated primarily on the utilities of the small towns and villages which are often substandard in their equipment and operation and are most in need of technical guidance in standardizing and improving their equipment. In addition to discharging its supervisory functions, the directorate should work out long-range plans, including a properly phased plan for the establishment of a power network which would be helpful in determining the location and size of power plants to be established in the future.

Electricity Rates[25]

As power production increases, there will no doubt be considerable pressure to lower the rates now charged for electricity. The mission encountered much complaint about their present level and structure. The rates charged for lighting in the principal cities do not, however, appear excessive by comparison with other countries. Electricity prices in the small towns and villages, on the other hand, are very high, but the generation of electricity by small diesel units and exclusively for lighting is inevitably rather expensive. The rates charged for electricity used as power are definitely higher than in many other countries. In Syria the power rates are often compared unfavorably with those in Lebanon in particular.

Nevertheless, the mission strongly advises against a general reduction of electricity rates over the next five or six years. An adequate supply of electricity is more important at this time than lower prices for electricity. The profits of the public utilities must be safeguarded so that the needed expansion program can be financed from their own resources. This is particularly true of the nationalized utilities of Damascus and Aleppo which have been earning considerable profits. With the anticipated increase in power generation and some reduction in costs of production, the mission anticipates that the net operating income of these utilities exclusive of depreciation allowances may reach a total of £S 60 million over the six-year period 1955-60. Most of this sum will be needed to finance expansion and pay the indemnities for nationalization. In this way the government will be able to conserve the resources derived from taxation and to borrow for other urgent requirements.

[25] See Annex G, p. 422.

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v MUNICIPAL TRANSPORT

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Brief mention should be made of the urban transport services in Damascus and Aleppo. In Damascus the tramways are operated by a company nationalized in 1951, whose principal business is the generation and distribution of electric power. The tram service, plagued by low fares and relatively high operating costs, has been running heavy deficits and steadily losing ground to buses, which are operated on a coordinated basis by a large number of owners who pool their receipts for the purpose of meeting certain common expenses. For this reason the company has advanced proposals to buy out the private buses at a cost of about £S 2 million and gradually to substitute new buses at an additional cost of £S 2 million. The mission, however, strongly advises against the use of basically public funds for this purpose, since the buses now appear to be efficiently operated by private enterprise.

In Aleppo the power company, likewise nationalized in 1951, has a monopoly on the operation of both buses and trams. In contrast to the Damascus company, however, it is operating both these services at a modest profit while maintaining moderate fares.

vi TELECOMMUNICATIONS

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It is, of course, important that not only transport but also communications facilities expand with a growing economy. In Syria a program for the improvement of telecommunications has long been under way. During the eight-year period 1946-1953, almost £S 31 million was invested in telecommunications, particularly in the expansion of the telephone network and the installation of automatic telephones. In fact, the amount invested for this purpose might be said to be disproportionate to most other fields of public investment. The results, however, have been conspicuous. The number of telephone subscribers has risen from 9,000 in 1949 to 21,218 in 1953, the number of telephone offices from 100 to 132, and the number of telephone circuits from 161 to 379. The Syrian telephone system is now substantially better than that of most neighboring countries.

The postal, telegraph and telephone administration plans to spend a sum of £S 14.317 million over the next five years on the further improvement of telecommunications. The mission had no one of special compe-

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plan has one defect in common with those of other cities: it fails to make adequate provision for the location of housing for the less well-to-do classes within the confines of the city.

Aleppo has expanded in a much less orderly way than Damascus. Although a city plan was drawn up after the second World War, it is not based on an adequate topographic survey and reveals so many deficiencies that its total revision appears to be required. Of the smaller cities, Latakia has the best plan; it takes into account the need not only to reform the old city but to develop neighborhoods for community living. A few other towns such as Deir ez Zor, Hama and Homs have plans, but these for the most part envisage little amelioration except perhaps from the standpoint of communications.

In general most of the plans have been inspired too much by transport requirements and too little by the objective of improving the conditions of urban living. More attention must be paid to the zoning of districts for housing, industry and shops and bazaars, to the interrelationship of living quarters and centers of employment, and to the location of gardens, schools, hospitals and other public buildings in such a way as to make them most accessible to the community they are designed to serve. Within the larger cities it is important to plan community living also around neighborhood units which in certain respects can be self-contained and can help to decentralize the city.

Community Facilities[38]

Municipal investment in such facilities as streets and sidewalks, water supply, sewers, lighting and libraries has averaged a little over £S 12 million a year during the period 1949-54. In addition the central government has made available almost £S 30 million to enable Aleppo to install an entirely new water supply system, and has spent between £S 200,000 and £S 300,000 annually on the exploration of water for villages in the Hauran and the Djebel Druze.

A program for municipal investment can hardly be drawn up without a careful assessment of the needs of municipalities and their ability to meet them. In view of the limited resources available, however, the volume of investment can increase only gradually, to perhaps £S 16 million in

[38] See Annex I, p. 470.

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1960, or an annual average of around £S 14.3 million over the period 1955-60.

The principal task of the central government in this field will be to assist towns and villages in obtaining adequate supplies of pure drinking water. Now that the expensive new system for Aleppo is virtually complete, it should be possible to devote more resources to the smaller cities and villages. Some £S 5 million will still need to be spent on expansion and improvement of the distribution network in Aleppo. Aside from this amount, we recommend that the government allocate about £S 8 million over the period 1955-60 for water supplies in towns and villages. The government has recognized that the problem is most acute in the Hauran and the Djebel Druze. Much of the population in these provinces is dependent on rain catchment for its water supply, and supplies in catchment basins quickly become polluted and occasionally dry up. The problem in these regions is complicated by the dearth of underground water, which necessitates expensive geophysical surveys. Elsewhere in the country there are still many villages and towns which urgently require pure water. For example, Hassetche, although the capital of Jezireh, is dependent on water drawn directly from the Khabour river and peddled from carts in the city streets. Because the need is so great, funds for water supply will have to be used with great economy. Extensive distribution systems which are expensive to install and maintain must be avoided. In the smaller villages a centrally located well will generally suffice. For the larger villages and towns the water should be piped to a limited number of public fountains where inhabitants can draw it for their domestic needs.

Waste disposal is also an important problem, especially from the standpoint of public health. Even the larger cities have not fully solved this problem. In Damascus, for instance, the sewers empty into the Barada river, whose water is used farther downstream not only for irrigation but also for drinking. The most immediate need, however, is for proper waste disposal in the villages. The construction of latrines and cesspools appears to be the only feasible solution there, and the community self-improvement program which, in accordance with our earlier proposals, would be initiated by community workers, should focus at least in part on the improvement of village sanitation by this means. To overcome any public inertia, the government might find it advisable to give squatting slabs or some comparable assistance to householders as an incentive to construct and use latrines.

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ANNEX G *NOTES ON ELECTRIC POWER*

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Energy Resources

Coal, oil and lignite resources are apparently lacking; and the calorific value of the small peat deposits is low and unutilizable. The potentialities of hydroelectric power are limited by the low volume and gradient of the rivers, the almost total absence of falls or rapids and the wide variations in seasonal flow. Only the Youssef Pasha site, on the Euphrates, has considerable possibilities for power generation. It is estimated that at this location there could be developed a firm power of 45,000 KW and a maximum of 90,000 KW. It is doubtful whether power potential on all other rivers together exceeds 60,000 KW, so that Syria's total estimated hydroelectric potential is approximately 150,000 KW—about the same as that of the Lebanese project of Litani alone.

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1 PUBLIC UTILITIES

Installed Capacity

In 1953 the installed power capacity was as shown in Table 1.

TABLE 1 Installed Power Capacity, 1953

	Installed power		Peak load
	KW	KVA	KW
Damascus	13,000	16,500	13,160
Aleppo	10,400	15,050	10,040
Homs-Hama	2,650	3,510	2,650
Latakia	800	1,000	800
Deir ez Zor	840	915	840
Small towns and villages	6,660	7,801	6,544
Total	34,350	44,776	34,034

These data indicate that the average load factor was 40%.[1]

[1] The load factor is the ratio of the average load in KW supplied during a designated period to the peak or maximum load occurring in that period.

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Power Generated

The amount of power generated by the public utilities and bought by them from private plants during the last five years is shown in Table 2.

TABLE 2 Power Generated and Purchased by Public Utilities, 1949–53

(*Million KWH*)

	1949	1950	1951	1952	1953
Damascus	31.55	35.25	36.91	40.19	47.58
Aleppo	25.74	33.47	36.36	43.05	49.14
Homs-Hama	9.36	10.33	11.07	12.60	13.71
Latakia	1.02	1.21	1.50	1.75	2.25
Deir ez Zor	0.86	0.94	1.06	1.25	1.54
Small towns and villages	1.81	2.81	3.67	4.46	5.63
Total	70.34	84.01	90.57	103.30	119.85

Breakdown of Supply and Consumption

The distribution of power consumption by various uses and the total power supply are shown in Table 3.

TABLE 3 Supply and Consumption of Electricity

(*Million KWH*)

Principal public utilities[a]	1947	1948	1949	1950	1951	1952	1953
Light	17.89	22.27	27.90	33.70	37.82	44.25	52.04
Power	15.30	18.42	22.28	27.64	28.47	31.44	36.43
Traction	4.11	4.16	4.23	4.19	3.99	4.10	4.32
Losses and miscellaneous	9.74	11.31	14.22	15.76	16.52	19.00	21.45
Total	47.04	56.16	68.63	81.28	86.80	98.79	114.24
Private industrial plants[b]	3.6	5.0	7.2	10.0	15.0	n.a.	n.a.
Estimated total supply in Syria	57.0	70.0	85.0	95.0	105.0	n.a.	n.a.

[a] Including power purchased from private plants.
[b] Excluding power sold.

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IV ELECTRICITY TARIFFS

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As stated in the Main Report, tariffs for electricity used for lighting of houses and shops are not excessive, except in the small towns. They range from about 16 to 25 piasters per KWH, or about 4.5 to 7.0 U. S. cents;[3] in the small towns they are on the high side of the range and are said to be as high as 50 piasters per KWH in some places. Sometimes the tariff takes the form of a uniform charge. In Damascus, however, the tariff was until recently on a downward sliding scale, the charge varying inversely with consumption; since 1953 it has been on a two-step progressive basis, the heavier consumers paying more. The change in tariff structure was made as a protection against an exaggerated peak load but has had the unfortunate effect of discouraging use of electrical appliances by small consumers. While such a policy may be justified as long as demand exceeds supply, as soon as installed power measures up to demand the Damascus tariff policy should be revised to encourage domestic consumption.

Charges for electricity for power vary with the area, the subscribed power and the consumed power. The range is between 4.66 and 18 piasters per KWH, the low rate of 4.66 piasters applying only to high utilization of subscribed power in the area of Homs-Hama where there is a hydroelectric plant. The average rate is between 10 and 12 piasters per KWH. Surcharges are imposed on consumption during peak hours. To all these rates, a municipal tax of 10% is generally added.

These rates are high compared with charges in other countries. Table 5 compares the rates paid by an Aleppo industrial consumer with those paid by comparable consumers elsewhere.[4]

Many Syrian consumers complain about the cost of electricity in comparison to the lower rates applicable in neighboring countries in general and in Lebanon in particular. The mission is not in a position to judge whether the basis on which charges are fixed in Lebanon is sound. However, Lebanon has the advantages of a hydroelectric power output equal to more than half of the total power supply (compared with less than 25%

[3] Prices of electricity (in U. S. cents per KWH) for monthly lighting consumption of 15 KWH (1951): New York, 6.33; Zurich, 8.15; Paris, 4.65; London, 5.80; and Colombo, 8.30. (Source: International Bank's Mission to Ceylon.)

[4] Rates for other countries are at the 1951 level.

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in Syria), proximity of most of the thermal stations to pipeline outlets, and a well-developed consumption pattern operating from an interconnecting national grid. Some of these favorable conditions will be present in Syria in due course, although the handicap of limited natural resources will remain. The fact that many power users are unsatisfactory consumers, in that they provide a very low load factor, also contributes to high power costs in Syria. The most extreme illustration is provided by seasonal industries, such as ginning, which require large investments in power capacity for only a few months' consumption each year. In such cases the return would be very poor if power were sold at specially low rates for so limited a period.

TABLE 5 Comparative Industrial Power Rates

(U.S. cents per KWH)

	30 KW, 200 hours per month	300 KW, 250 hours per month
New York	4.19	2.40
Aleppo	2.53	2.22
Zurich	2.35	1.27
London	1.79	1.59
Colombo	1.80	1.30

According to the profit and loss accounts provided by the public utilities of Damascus and Aleppo, the gross return per KWH sold in 1953 was 13.6 piasters in Damascus and 12.8 piasters in Aleppo. The costs of operation of the power plants, including maintenance and repairs but excluding financial charges, were 3.18 piasters per KWH for Damascus and 4.82 piasters for Aleppo. The lower figure for Damascus is due mainly to the fact that about one-third of all power is generated in hydroelectric plants, but also to the higher efficiency of the diesel equipment. The operating costs in the hydro plants are only about 0.4 piasters per KWH sold, compared with 4.5 piasters in the diesel plants. Moreover, in the diesel plants fuel represented about 66% of the total operating cost in Damascus and 78% in Aleppo. The price of fuel oil and the efficiency of the diesel generator sets are therefore very material factors in the final price of electricity produced in thermal plants.

According to the accounts, the total costs per KWH sold and distributed were 7.25 piasters per KWH for Damascus and 5.35 piasters for

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377 Aleppo. This would mean that distribution costs would amount to 4.07 piasters per KWH in Damascus and only 0.53 piasters in Aleppo (excluding financial charges). This large difference can be partly explained by the fact that the personnel expenditures for Aleppo are exclusive of clerical and management personnel, while on the other hand the figure of £S 1.2 million quoted for Damascus is probably too high. One of the difficulties is that clerks and management personnel are common to the several activities of the public utilities—power, streetcars and water supply in Damascus, and power, streetcars, buses and water supply in Aleppo.

According to the accounts, the 1953 gross profit of the Damascus electric utilities was £S 2.4 million and £S 2.75 million for those in Aleppo, although the facts with respect to personnel costs would indicate that the true Damascus figure is higher and that of Aleppo lower. In any case these are large returns for the two public utilities even if the actual value of each were as high as £S 10 million. Not only are these public utilities self-supporting but they are able to finance at least part of the projected development schemes, a factor which has led the mission to recommend no reduction in power tariffs as long as large capital investment is needed.

As the proposed program gets under way, the replacement of diesel by steam plants will reduce the cost of fuel by about one piaster per KWH sold, since the cost of gas oil is about £S 103 per ton, compared with about £S 60 per ton for fuel oil, taking into account the decrease in efficiency. Therefore, pending completion of the Youssef Pasha project, earnings in the Aleppo area would not exceed one piaster per KWH, even when the steam plant is able to generate the bulk of the needed power.

In Damascus the increase in earnings resulting from the power development program would be about the same as in Aleppo. While savings realized by the shift from diesel to steam power would be less because the plant to be displaced in Damascus is more efficient than that in Aleppo, large economies would flow from the shift to hydroelectric power. But a large reduction in the cost of electricity for Syria as a whole can be expected only after completion of the main hydroelectric projects and construction of an interconnecting network based on the line Youssef Pasha-Aleppo.

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509 built, many still in service are being retired by larger airlines whose increased traffic requires greater unit capacity. The mission recommends allocating possibly £S 600,000 to be used for this purpose over the next five years.

365 MUNICIPAL TRANSPORT

Both Aleppo and Damascus are served by city tram and bus systems. As in many other parts of the world, the buses are gradually replacing the tramways.

Aleppo

The tramway system of Aleppo was established in 1929 by a French company under a monopoly concession to provide the city with public transport. In 1951 the company was nationalized, continuing operations under the same concession. There was no bus service until 1952, when it was launched by the tramway company itself under a broadened interpretation of the original monopoly.

Both forms of transport are now operated at a small profit. While tramway development is static, new buses are being financed out of reserves set aside earlier for renewals on the tramway system. A gradual replacement will undoubtedly take place until the tramway system finally becomes uneconomical, but no immediate need to accelerate the process or to alter the policy is evident.

Damascus

Although older (1907) the Damascus tramway system has a similar history. Started by a Belgian company, it too was nationalized in 1951. In this case, however, the growth of bus competition has taken a different course.

In 1946 the tramways introduced three buses which they operated experimentally for about eight months. The fare was set at 15 piasters, but private buses made their appearance also, with a 10-piaster fare, and their competition caused the tramways' experiment to show an operating

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loss. Perhaps because of this, the tramway company failed to obtain a broadening of its monopoly concession to include buses.

Without legislative restraint, the private bus business continued to grow in the hands of many individual owner-operators. There are now about 120 private buses, and their operators have combined into an association for the sake of uniform rates, pooled revenues and operating economies. Users apparently prefer the buses to the trams, for despite extremely low tram fares the buses have absorbed most of the business. Today, in contrast to 35,000-45,000 daily tram passengers, the private buses carry 100,000-200,000. The tramway operates at a considerable loss.

Seeking a way out of this dilemma, the nationalized tramway company has proposed that it buy up the buses at a cost of around £S 2 million, investing another £S 2 million in a gradual program of replacement with new buses. This idea has not met with favor among the bus owners, who see no public benefit in shifting from a successful and satisfactory private exploitation to a municipal operation.

The mission feels that such a shift is not justified economically, and that there is no need to use public funds for this purpose. Originally the tramways were installed as consumers of electric power generated by the same company. Under present local conditions the growing demand for electricity for other uses suggests that the simplest course is for the outmoded tramway, with its high overhead costs, to retire from the picture gradually in favor of the more efficient bus system already in operation.

VI TELECOMMUNICATIONS

Syrian telephone and telegraph facilities have expanded rapidly in recent years, under the stimulus of an exceptionally clear and coordinated program of development. Investment in new and improved installations, including automatic dial system, has totalled £S 30,861,223 since 1946, mainly provided through interest-free loans from the government.

An even more impressive fact is that the operations are self-supporting. Telecommunications revenue has exceeded operating expense by an average amount of about £S 700,000 per year since 1949. In 1953 the total revenue was £S 10,944,684 against expenses of £S 9,573,585, leaving a record surplus of £S 1,371,099. Officials believe that with more efficient

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362 families requiring one dwelling each. While the need for a high and even higher rate of construction in the future is undeniable, it is doubtful that the factors which have operated to create an effective demand for housing will altogether be as effective in the future. Some decline in building over the coming years may well take place.

365 361 Community services have not kept pace with construction. Damascus and Aleppo have been most nearly provided with the essential streets, water supply and sewerage facilities, but the medium-sized and the small communities are very badly serviced. Except for water supply, this is not yet a problem for the small settlements, but it is serious for the medium-sized centers with their motorized transport and denser populations. The social services—education, public health, social welfare and community development—are likewise not yet adequately developed in Syria, but the country is commendably aware of the need and in the field of education, at least, has increased its expenditures impressively in the last few years. A few of the larger municipalities take care of their community services and have undertaken town-planning, but the central government, through the Ministry of Public Works, merely serves as technical advisor to the municipalities. There is no central government department with responsibility for housing. And while there are ministries for education and public health, no government department is responsible for social welfare or community development programs and no such programs exist. The administrative organizations in these fields clearly need strengthening.

Investment in Settlements

657 361 Over 60% of Syria's total annual investment is estimated to go into settlements, for housing, community and social services, and other purposes. During 1949-53 this type of investment averaged £S 138 million annually, of which £S 15 million (almost 11%) was from public funds and £S 123 million (89%) was private investment. On the basis of a 3.65 million population the annual investment in this sector was £S 39.4 per capita, of which £S 35.1 represents private funds.

[362] Perhaps as much as 80% of the private investment and about 72% of the total investment in settlements goes into housing; the balance is divided between industrial and commercial buildings, in that order. Private building activity reached an all-time high in 1953.

Of public investment in settlements, 80% is municipal and only 20%

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their road funds on types of pavement suitable to the needs of the locality, choosing those methods which make greatest use of local materials and hand labor and depend least on machinery and imported materials. Stone-paved roads, of which there are excellent examples in Syria, probably provide the answer for most of the settlements where stone is readily available, and the government should be able to provide asphalt to most communities. Many of the roads in villages, particularly those which do not carry motor vehicle traffic, could be improved through cooperative community endeavor, and this should be one of the objectives of the community development program we have recommended.

Electricity

Electricity is of economic importance to those communities which depend upon it for productive power and not merely for light. The mission recognizes fully the significant developing influence which the availability of electric power can have upon a community. Useful though it is, however, we suggest that a major effort to provide electric power primarily for lighting be deferred until the more urgent problems of water supply and sewerage have received attention.

Landscaping

Syria's broad and nearly waterless steppes have led to cities and villages virtually without trees, a situation to which the devastation of the first World War contributed greatly. Even cities like Damascus, lacking neither greenery nor water, have large areas which remain bare. The planting of trees, especially shade trees for the streets, should be a concern for all Syrian settlements. This, of course, calls for a study of the most suitable types of trees for the different regions, and the establishment of nurseries, as recommended in Chapter 3 of the Main Report.

Local committees should do the planting, once the problem of water supply has been met. Where streets are narrow, there is much to be said in favor of planting trees inside the house plots so that the inhabitants themselves will take care of them; the trees will then shade the streets without taking up needed road space. In recently planned areas where the streets may be unnecessarily wide, a strip on either side might be turned over to the people living on the street on condition that it be planted with